Rule CIC263: Balance between contention winners and contention losers may be inappropriate

Finding: CPExpert believes that the balance between contention winners and contention losers may need to be adjusted.

Impact: This finding should normally have a MEDIUM IMPACT on the performance of the CICS region. However, the finding could have a HIGH IMPACT on the performance of individual transactions if these transactions are queued for lengthy intervals.

Logic flow: This is a basic finding, based upon an analysis of the CICS statistics. Please refer to Rule CIC260 for a discussion of basic ISC/IRC concepts.

Discussion: Transactions acquire the use of a session in an ISC/IRC environment by using the ALLOCATE command. Conversations can take place between the two CICS regions or systems only after the session has been allocated. Once established, the session normally exists for a long time and can be used by many different transactions. The session normally is terminated by a FREE command.

A session must be available in order to be allocated in response to the ALLOCATE command. If a session is not available, CICS will normally queue the allocate request (and suspend the transaction) until a session is made available.

With LU6.1 and LU6.2, CICS will attempt to make a session available if the ALLOCATE request cannot be honored. If there are no contention winner sessions available, CICS may issue a bid for an available contention loser session. If the bid is honored, the contention loser session is treated as a contention winner session and the session is allocated. Note that this does not apply to MRO connections.

Bidding for contention loser sessions requires unnecessary overhead and the process delays transactions. The overhead can be eliminated by specifying additional contention winner sessions. This can be done by specifying more sessions or by changing the balance between contention winners and contention losers.

CPExpert detects that there is an imbalance between LU6.1 contention winners andcontention losers by analyzing Peak Bids in Progress (A14EBHWM). Rule CIC263 is produced if CPExpert detects a problem with the

number of generic sessions defined. (Rule CIC263 applies only to LU6.1 connections.)

Suggestion: CPExpert suggests that you consider making more contention winner sessions available. Making more contention winner sessions available should eliminate the need for CICS to bid for contention losers sessions to satisfy ALLOCATE requests.

More contention winner sessions can be made available by increasing the number of sessions or increasing the number of sessions defined as contention winners. Please refer to Rule CIC160 for a discussion of the implications of defining more sessions.

You must, of course, maintain consistency between the front-end and back-end definitions.

Reference: *CICS/ESA Version 3.1.1 Performance* Guide: pages 76-84.

CICS/ESA Version 3.2.1 Performance Guide: pages 294-301.

CICS/ESA Version 3.3.1 Performance Guide: page 57 and pages 313-320.

CICS/ESA Version 4.1.1 Performance Guide: Section 2.2.23 and Appendix A.1.13.

CICS/TS Release 1.1 Performance Guide: Section 2.2.23 and Appendix 1.1.14.

CICS/TS Release 1.2 Performance Guide: Section 2.2.24 and Appendix 1.1.14.

CICS/TS Release 1.3 Performance Guide: Section 2.2.25 and Appendix 1.1.15.

CICS/TS for z/OS Release 2.1 *Performance Guide*: Chapter 5 (ISC/IRC system and mode entry statistics) and Appendix A (Table 64).

CICS/TS for z/OS Release 2.2 *Performance Guide*: Section 2.2.27 (Interpreting ISC/IRC system and mode entry statistics) and Appendix 1.1.12.

